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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,377	07/27/2000	GERHARD SCHMITT	21551	2311

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EXAMINER

DUONG, THANH P

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/601,377		SCHMITT, GERHARD	
	Examiner		Art Unit	
	Tom P Duong		1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-11 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicants' remarks and amendments filed on 6/4/04 have been carefully considered. Claims 1-6 have been canceled. New claims 7-12 have been added. Claims 7-11 are now pending in this application. Claim 12 is withdrawn from consideration as being directed to a non-elected invention

2. Newly submitted claim 12 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the method of separating the dust-laden product from its solid particles can be done thru a centrifugal separator that is located externally of the reactor other than a centrifugal separator located inside or surround by bed as claimed.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 12 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:


(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 7-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayers' (2,958,298) in view of Priestley (4,021,184).

Regarding claims 7 and 11, Mayers discloses a reactor (12) for gasifying granular fuels (coal), which comprises: a casing (12); a reservoir (15) for holding the granular fuel and communicating with the inside of the casing; structure in said casing (12) for defining a fixed bed (11) of the granular fuel at a lower portion of which, an oxygen-containing gasification medium (air via line 14) is introduced, said gasification medium moving up through said fixed bed of granular fuel; a discharge duct (ducts extending upwardly from cyclone 16 to line 17) located above the fixed bed of granular fuel through which product gas (heated gas) containing hydrogen and carbon oxides is withdrawn from the reactor; and at least one centrifugal separator (cyclones 16) in said casing for separating solids (Col. 4, lines 5-10) from the product gas (heated gas exiting line 17), having an inlet opening (not described but inherent feature of a cyclone device; see cyclone inlets 38 of Priestley '184) for dust-laden product gas coming from the fixed bed (11) of granular fuel, an outlet line (line 17) for product gas, and a solid discharge line (not shown but inherent feature of a cyclone device; see solid discharge conduits 43 and 44 of Priestley '184) leading into the fixed bed, said outlet line (ducts extending upwardly from cyclone 16 to line 17) communicating with the discharge duct (line 17). Mayers discloses fuel can be ignited by external means to initiate the combustion but fails to disclose a gas inlet for said gasification medium below said bed and admitting said gasification medium to said fuel for an endothermic reaction thereof with partial oxidation. Priestley teaches a plurality of gas inlets (fuel guns 31) penetrating the vessel

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wall to furnish the fuel for the reactor chamber (Col. 2, lines 34-36). Thus, it would have been obvious in view of Priestley to one having ordinary skill in the art to modify the combustor of Mayers with gas inlets as taught by Priestley in order to initiate and facilitate combustion of the granular fuel. Regarding claim 8, Priestley discloses all the limitations as described above and further discloses outlet lines of the separators open into an annular chamber  disposed in the upper portion of the reactor, which annular chamber communicates with the discharge duct.

4. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over applied reference (Mayers '298 in view of Priestley '184) as applied to claim 7 above, and further in view of Angel (2,433,726). The applied references fail to disclose a vertical annular wall is provided in the upper portion of the reactor and the inlet opening of the separator is disposed outside the portion of the reactor enclosed by the annular wall and the separator is disposed outside the portion enclosed by the annular wall. Angell teaches separators 22 are disposed outside the portion enclosed by the annular chamber (conical lower section 4), which has an inclined, vertical annular wall. Angell also shows the outlet line of the separators 22 is disposed in the header 25 (discharge duct) and the header 25 is communicated with the annular chamber (conical lower section 4) and the inlet opening of the separator is disposed outside the portion of the reactor enclosed by the vertical annular wall. The inclined, vertical annular wall isolates the vapors and gases (Col. 5, lines 26-35) in the header 25 from mixing with the incoming regenerating gas from line 13. Thus, it would have been

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obvious in view of Angell to one having ordinary skill in the art to modify the reactor of applied references with annular chamber having a vertical annular wall as taught by Angell in order to prevent intermixing of the vapors and gases from header with the incoming regenerating gas.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 4,441,892 discloses the process of gasification of a carboniferous material. USPN 4,146,369 discloses fuel with particle size distribution for fixed bed and fluidized bed.

Response to Arguments

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory

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action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Duong
August 24, 2004

TD



Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700